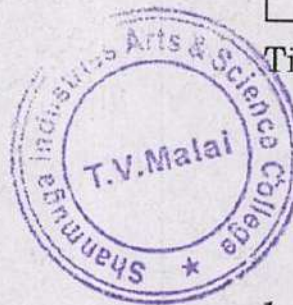


APRIL/MAY 2024

**23PEPH15A — BIOPHYSICS**



Time : Three hours

Maximum : 75 marks

**SECTION A — (10 × 2 = 20 marks)**

Answer ALL questions.

1. How do macromolecules maintain stability?
2. What is mean by Prokaryotic and Eukaryotic cell?
3. State amino acids.
4. What is mean by "Nucleoproteins"?
5. Differentiate nucleosides and nucleotides.
6. Define Ribozymes.
7. Write down the basic principle of UV radiation.
8. What are the uses of radiations in cancer?
9. Write down the basic principle of ESR.
10. What are the applications of Thin layer Chromatography (TLC)?



SECTION B — ( $5 \times 5 = 25$  marks)

Answer ALL questions.

11. (a) Explain cell size and shape.  
Or  
(b) Explain in detail about extracellular matrix.
12. (a) Write a short note on Quaternary structure of proteins.  
Or  
(b) Explain nucleoproteins.
13. (a) Give the importance of membrane models.  
Or  
(b) Obtain the expression for electrochemical potential equation for membranes.
14. (a) Write short notes on Radiation hazards and protection.  
Or  
(b) Explain molecular effect by gamma radiation.
15. (a) Explain gas liquid chromatography (GLC).  
Or  
(b) Write a short note on optical rotatory dispersion.

SECTION C — ( $3 \times 10 = 30$  marks)

Answer any THREE questions.

16. Briefly explain life cycle and cell architecture.
17. Explain  
(a) RNA structure and  
(b) DNA Structure.
18. Outline the organization of the nervous system and explain Nernst equation.
19. Explain the effects on proteins and macromolecules by UV radiation.
20. Describe in detail about structure determination by X-ray Crystallography.

